LOGGED BY	BEGIN DATE	COMPLETION DATE	BOREHOLE LOCATION (Lat/Long or North/East and Datum)	HOLE ID
M. McKee	12-17-07	12-19-07	N2121011.906 / E5997217.465 (NAD83)	TS-R1-PZ-D
DRILLING CONTRACTOR			BOREHOLE LOCATION (Offset, Station, Line)	SURFACE ELEVATION
Gregg Drilling and Testing, Inc.			Offset 219ft R Sta 53+15 NB Alignment	12.301 ft (NAVD88)
DRILLING METHOD			DRILL RIG	BOREHOLE DIAMETER
Mud Rotary			Fraste Multi-drill (truck)	5 in.
SAMPLER TYPE(S) AND SIZE(S) (ID)			SPT HAMMER TYPE	HAMMER EFFICIENCY, ERi
MC (2.4"), SPT (1.4"), D&M Piston (2.4")			Automatic, 140 lbs., 30-inch drop	76.2%
BOREHOLE BACKFILL AND COMPLETION			GROUNDWATER READINGS DURING DRILLING / AFTER DRILLING (DATE)	TOTAL DEPTH OF BORING
2" dia. Standpipe Piezo Screened 40.0 to 50.0 ft			6	99.5 ft

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	0		4" ASPHALT CONCRETE.												
	1		SILTY SAND with GRAVEL (SM), loose, brown, moist, sand is fine to medium, GRAVEL is fine to coarse, up to 1" diameter, subangular. [FILL]		S1										PID= 1.4 ppm
10.30	2				S2	6 6 7	13	89				PP = 1.0, 1.25, 1.25			
	3		Lean CLAY and CLAYEY SAND (CL-SC), very stiff, olive gray, moist, trace of very fine SAND, trace of carbon deposit, earthy odor detected AND CLAYEY SAND, very loose, dark yellowish brown, moist, fine to medium, nodule of black carbon deposit up to 1/2" diameter.. Grades with occasional fine subangular gravel.							12.5	123.2			
8.30	4				S3	3 2 1	3	56							
	5														
6.30	6		Lean CLAY with SAND (CH), medium stiff, greenish gray, very moist, with black carbon specks. [BAY MUD]												Faint hydrocarbon odor @ 5-6'
	7											TV = 0.3			
4.30	8				U4		50 psi	87		23.1 22.4	129.2 125.4	UU = 0.17			PI, LL, C
	9														
2.30	10		Grades with white shells, soft, very moist to wet at ~10' - 12'.												
	11														
0.30	12		SILTY SAND (SM), loose, gray, moist, fine to medium, with lenses of clean poorly graded SAND. [MARINE SAND]												12' of casing installed after drilling to 12' Hole collapsing ~4-6'
	13				U5		25 psi	94							
-1.70	14									28.3	118.8				PI, PA, LL, CU
	15		Poorly graded SAND with CLAY (SP-SC), medium dense, dark greenish gray, wet, fine to medium.		S6	1 3 7	10	100							
-3.70	16				S7	10 13 16	29	56		25.7 28.3 23.5	126.1 122.3 126.2	DS = 0.6 DS = 1.134 DS = 1.842			PA
-5.70	18														
	19														
-7.70	20		Poorly graded SAND (SP), medium dense, dark greenish gray, wet, fine to medium, trace fines, with small shell fragments up to 1/16" diameter, with fat CLAY lenses.		S8	9 15 6	21	50							
	21		Fat CLAY (CH), soft, greenish gray, wet. [BAY MUD]												
-9.70	22				S9	1 0 0	1	100		57.1					PI, LL
	23														
-11.70	24		Poorly graded SAND with CLAY (SP-SC), loose to medium dense, greenish gray, wet, with a lot of small shell fragments. [MARINE SAND]												Casing extended to 24' after drilling to 24'
	25														

(continued)

Department of Transportation
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REPORT TITLE				HOLE ID
BORING RECORD				TS-R1-PZ-D
DIST.	COUNTY	ROUTE	POSTMILE	EA
4	S.F.	101	8.3/9.4	163701
PROJECT OR BRIDGE NAME				
Doyle Drive Replacement Project				
BRIDGE NUMBER	PREPARED BY		DATE	SHEET
N/A	T. Carroll		11-3-08	1 of 4

CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	25		Poorly graded SAND with CLAY (SP-SC), loose to medium dense, greenish gray, wet, with a lot of small shell fragments. [MARINE SAND]		S10	15 7 9	16	83							Casing extended to 25' after sampling to 28'
-13.70	26														
	27				S11	4 5 7	12	100							
-15.70	28														
	29		Poorly graded SAND (SP), dense, yellowish brown, moist, fine to medium, with iron-oxide mottling. [COLMA SAND]												
-17.70	30				S12	4 25 31	56	100							Casing extended to 30' after sampling to 33'
	31														
-19.70	32				S13	9 23 26	49	100							
	33														
-21.70	34														
	35				S14	22 38 5/ 0.5"	43/ 6.5"	96							
-23.70	36		Grades very dense.		S15	10 28 37	55	100							
	37		37.1', silty lense.												
-25.70	38														
	39														
-27.70	40				S16	34 35 42	77	100							
	41														
-29.70	42				S17	10 28 50	78	100							
	43														
-31.70	44														
	45				S18	24 50/6"	50/6"	100							
-33.70	46				S19	18 32 28	60	100							
	47		46.5' - 47.5', some 1/8" - 1/2" seams of oxidized, fine (SP) SAND.												
-35.70	48														
	49														
-37.70	50		Grades very fine, dense SAND.		S20	11 19 26	45	100							
	51														
-39.70	52														
	53														
-41.70	54														
	55														

(continued)

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CALTRANS FORMAT DOYLEDRIVE_ARUPLOGS_11-2-08.GPJ ARUP LIBRARY_CALTRANS FORMAT.GLB 11/3/08

Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	55		Poorly graded SAND (SP), dense, yellowish brown, moist, fine to medium, with iron-oxide mottling. [COLMA SAND]		S21	15 27 28	55	94							
-43.70	56														
	57		56.8', occasional black specks, oxidized SAND seam, grades very dense.												
-45.70	58														
	59														
-47.70	60				S22	14 21 29	50	100							
	61														
-49.70	62														
	63		Grades dark greenish gray.												
-51.70	64														
	65				S23	19 29 41	70	100							PID= 1.4-1.5 ppm
-53.70	66														
	67														
-55.70	68														
	69														
-57.70	70				S24	30 30 50/ 0.5"	35/ 6.5"	96							
	71														
-59.70	72														
	73		Lean CLAY with SAND (CL), very stiff, greenish gray, moist, black carbon nodules. [OLD BAY CLAY]												
-61.70	74														
	75				S25	5 14 22	36	100							
-63.70	76														
	77														
-65.70	78		Fat CLAY (CH), hard, greenish gray, moist.												
	79														
-67.70	80				S26	12 15 22	37	100				PP = >2.25, 2.25, 2.25			
	81									38	126	UU = 1.48			
-69.70	82											PP = >2.25, 2.25, 2.25			
	83														
-71.70	84														
	85														

(continued)

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Figure

ELEVATION (ft)	DEPTH (ft)	Material Graphics	Description	Sample Location	Sample Number	Blows per 6 In	Blows per Foot	Recovery (%)	RQD (%)	Moisture Content (%)	Dry Unit Weight (pcf)	Shear Strength (tsf)	Drilling Method	Casing Depth	Remarks
	85		Fat CLAY (CH), hard, greenish gray, moist.		S27	10 15 19	34	100				PP = 1.13, 1.63, >2.25			
-73.70	86														
	87											PP = >2.25, 2.25, 2.25			
-75.70	88														
	89														
-77.70	90		Grades with abundant shell fragments.		S28	7 9 11	20	100							
	91									33.4	122.2				
-79.70	92		91.5', lenses of sand clay, very stiff.												
	93														
-81.70	94														
	95				S29	6 8 12	20	100							
-83.70	96		Grades with shells and subrounded fine GRAVEL (graywacke), very stiff.									PP = 0.88, 1.05			
	97														
-85.70	98				S30	8 24 50	74	100							
	99		Grades without shells and without GRAVEL, very stiff, with black specks.									PP = 1.13, 1.38, 1.25			
-87.70	100		Borehole terminated at a depth of 99.5 feet on 12/19/2007.							39.4	115.6				
	101		See Boring Record Legend for soil classification chart and key to test data and sampler type.									PP = 1.25, 1.3, 1.3			
-89.70	102														
	103														
-91.70	104														
	105														
-93.70	106														
	107														
-95.70	108														
	109														
-97.70	110														
	111														
-99.70	112														
	113														
-101.70	114														
	115														

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Figure